

Appl. No. 09/702,691
Amdt. Dated Jul. 19, 2004
Reply to Office Action of Feb. 18, 2004

REMARKS/ARGUMENTS

Applicant gratefully acknowledges the thorough Examination to date and has made every effort to fully respond to all the issues raised by the Examiner. Reconsideration of the application is respectfully solicited.

Rejection of Claims 17-20, 23-25, 27, 30 and 32 under 35 U.S.C. 102(e)

The Examiner has rejected claims 17-20, 23-25, 27, 30 and 32 as being anticipated by United States Patent No. 6,396,889 issued to Sunter et al. The Sunter et al. reference discloses a method and a circuit for testing phase lock loops (PLL) to determine its critical parameters such as the Gain-Bandwidth product, lock range, lock time, Bit Error Rate and Jitter. The object of the Sunter et al. reference is to provide a circuit which can be included in an integrated circuit which contains a PLL, thereby facilitating built in self test. The circuit is only connected to the normal input and outputs of a PLL during self test so as to not interfere with the normal operation of the PLL.

In contrast to the Sunter et al reference, the present invention is directed to a method and an apparatus for calibrating radios that uses a phase lock loop in conjunction with a frequency synthesizer to adjust the frequency synthesizer's output frequency in operation. According to the present invention, the output frequency of the frequency synthesizer is measured, the measurement is fed back to a controller which determines the true (current) frequency of a crystal and adjusts the output frequency based on this true value and on a desired frequency value.

Applicant respectfully submits that the rejection under 35 U.S.C. 102(2) as framed is unsustainable. In order to reach this rejection, the Examiner is interpreting figure 5 of the Sunter et al. reference to infer information not contained in the figure. This is improper for a novelty rejection. Even if the Sunter et al. apparatus were capable of being operated to perform the Applicant's claimed method which is denied, Applicant's method would arguably still be patentable over the cited reference in the

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absence of any enabling disclosure of the method. Applicant submits that in order for a novelty rejection to be sustainable, the cited reference must be an enabling disclosure for the claimed invention. Figure 7 and col. 6, line 6 to col. 7, line 3 of the Sunter et al. reference clearly show and describe how the circuit in figure 5 works. In any event, Applicant therefore submits that the method and apparatus of the present invention as claimed are clearly different than those disclosed in the Sunter et al. reference.

Applicant further submits that the present invention is novel in view of the Sunter et al. reference as there are several differences between the teachings of Sunter et al. and the elements defined in the claims of the application. In his rejection, the Examiner has stated that:

“Regarding claims 17, 23, and 27, Sunter teaches a method of calibrating a radio having a frequency source which produces a first signal having a first frequency by multiplying a second signal having an original frequency by a multiplier value (see fig. 5, the multiplexer 34 with two inputs 14 and 42), the method comprising”

Applicant respectfully disagrees with this statement and submits that the present invention claims a method of calibrating a radio having a frequency source while the Sunter et al. reference discloses a method of testing the critical parameters of a PLL. Furthermore, as best understood by the Applicant, in his rejection the Examiner has stated that the function of the multiplexer reads on the preamble of claim 17. Applicant respectfully disagrees with the Examiner. The function of a multiplexer, by definition, is to select one of its input signals as the output signal based upon the value of a control signal. In the Sunter et al. reference, the output 14 of the frequency source and the output 42 from the controller are the inputs of the multiplexer 34, which selects one of these input signals as its output signal based on the value of the select signal 40. As a multiplexer does not multiply input signals, Applicant submits that Sunter et al. does not disclose “...a frequency source which produces a first signal having a first frequency by multiplying a second signal having an original frequency by a multiplier” as contended by the Examiner. Hence, claim 17 is novel in view of Sunter et al.

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Furthermore, in his rejection the Examiner has stated that Sunter teaches:

“...a) determining the original frequency (see fig.5, connection 14 for the clock source”.

Applicant submits that connection 14 is simply the output of the clock source, and there is no element disclosed in Sunter et al. which is “determining the original frequency”, as indicated by the Examiner. Rather, Sunter et al. teaches that the clock frequency is one of the inputs to the multiplexer 34. In his rejection the Examiner has also stated that Sunter teaches:

“b) “utilizing the original frequency to determine a corrected multiplier value (see fig. 5, the connection 42 and multiplexer)”.

Again, Applicant submits that the multiplexer in Sunter et al is not a multiplier of frequencies and that there is no reference to a multiplier or to determining multiplier values in Sunter et al. Applicant therefore submits that Sunter et al. does not disclose the step of “utilizing the original frequency to determine a corrected multiplier value”, as contended by the Examiner.

Moreover, in his rejection the Examiner has also stated that Sunter teaches:

“c) producing an output signal having an output frequency approximately equal to a desired frequency by adjusting the multiplier value to the corrected multiplier value (see the output from the Frequency Measurement 38, and see fig.5, the feedback from the Digital Result to the controller 32 for controlling the controller).

Applicant again disagrees with the Examiner’s contention that step c) of claim 17 is anticipated by the Sunter et al reference. Applicant submits that Sunter et al. teaches the frequency measurement 38 reading values from the PLL 10 which are transmitted to the controller 34 to determine the critical parameters of the PLL 10, such as Gain-Bandwidth product and Jitter. Sunter et al. does not teach, nor disclose the step of “producing an output signal having an output frequency approximately equal to a desired frequency by adjusting the multiplier value to the corrected multiplier value” as

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contended by the Examiner. Sunter et al. discloses a method and a circuit which tests the critical parameters of the PLL without affecting its performance. As step c). of claim 17 involves "producing an output signal having an output frequency approximately equal to a desired frequency by adjusting the multiplier value to a corrected multiplier value", Applicant submits that claim 17 is novel in view of Sunter et al.

Based on the significant differences highlighted between the claimed invention and the teaching of the Sunter et al. reference noted above, Applicant submits that claim 17 is novel in view of Sunter et al.

With regards to the Examiner's rejection of claim 18, the Examiner has stated:

"...Sunter teaches the step a) further includes the steps of: a1) measuring the first frequency (see fig.5, Frequency Measurement 38 and output 42), a2) dividing the first frequency by the multiplier value to obtain the original frequency (see fig.5, the multiplexer 34 and two inputs 14 and 42)".

Applicant respectfully disagrees with the Examiner's statement and submits that the function of a multiplexer is to select one of its input signals as its output signal, and not divide a first frequency by the multiplier value. Sunter et al. does not teach "dividing the first frequency by the multiplier value to obtain the original frequency". Applicant therefore submits that claim 18 is novel in view of the Sunter et al. reference.

With regards to the Examiner's rejection of claims 19 and 20, Applicant submits that the comments made above are equally applicable to these claims, and therefore submits that the subject matter of claims 19 and 20 is novel in view of Sunter et al.

With regards to the Examiner's rejection of independent claim 23, Applicant submits that the comments made above are equally applicable to this claim, and therefore submits that the subject matter of independent claim 23 is novel in view of Sunter et al.

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With regards to the Examiner's rejection of independent claim 24, Applicant submits that the comments made above are equally applicable to this claim, and therefore submits that the subject matter of claim 24 is novel in view of Sunter et al.

With regards to the Examiner's rejection of independent claim 27, Applicant submits that the comments made above are equally applicable to this claim, and therefore submits that the subject matter of claim 27 is novel in view of Sunter et al.

With regards to the Examiner's rejection of claims 30 and 32, Applicant submits that the comments made above are equally applicable in regard to these claims, and therefore submits that the subject matter of claims 30 and 32 is novel in view of Sunter et al.

Rejection of Claims 21, 22, 26, 28, 29 and 31 under 35 U.S.C. 103(e)

The Examiner has rejected claims 21, 22, 26, 28, 29 and 31 as being obvious in view of Sunter et al. (United States Patent No. 5,977,805). Applicant submits that the comments made above are equally applicable to these claims, and therefore submits that the subject matter of claims 21, 22, 26, 28, 29 and 31 are not obvious in view of the Sunter et al. reference.

Applicant further submits that there are simply too many differences between the device described in Sunter et al. and that claimed in this invention. A person having ordinary skill in the art would have to make too many changes to Sunter et al. to reach this invention, and there is nothing in Sunter et al. which suggests or points to this invention.

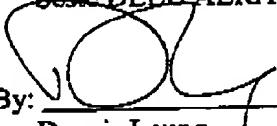
Conclusion

Applicant respectfully submits that the rejections under 35 USC 102(e) and 35 USC 103(a) have all been successfully traversed. Applicant respectfully submits that all

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of the claims presently standing in the application are patentably distinguishable from the teachings of the Sunter et al. patent. Accordingly, reconsideration and allowance of this application is respectfully solicited.

Attached is a two-month extension of time form. Should any further fees or payments be necessary for entry of this amendment and further prosecution of this application, the undersigned hereby authorizes the Commissioner to debit and/or credit our Deposit Account No. 16-0600.

Respectfully Submitted,
Seste DELL'AERA

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